

The purpose of this conference is to provide technical briefings on the research projects supported by the Advanced Research Materials (ARM) Program of the U.S. Department of Energy's Office of Fossil Energy.

These projects are conducted at various National Laboratories, Universities, and Industrial Research Organizations, chosen for the fit of the expertise and facilities available to the specific needs of the ARM Program. Summaries of the latest results will be provided from each of these projects, either by oral or poster presentations.

The projects are grouped by purpose into clusters that are focused on: (1) **Functional Materials**, intended to be capable of a specific set of functions in applications such as those encountered in hot gas filtration, gas separation, and fuel cell systems; (2) **New Alloys**, with emphasis on increased temperature capability/creep strength in conventional alloys, as well as approaches for improving the hoop strength and joining of ODS alloy tubes; (3) **Coatings and Protection of Materials** intended to develop the design, application, and performance criteria for coatings intended to protect materials from the high-temperature corrosive environments encountered in advanced fossil energy plants; and (4) **Breakthrough Concepts**, intended to explore concepts (based on mechanistic understanding from any discipline) for routes for the development of materials with capabilities beyond those currently available, and currently focused on temperature capabilities beyond current alloys.

In order to accommodate all of the projects in the conference with sufficient time for presentation and meaningful feedback, each year one of these clusters is presented as posters. This year, the *Breakthrough Concepts* cluster will be presented as posters.

The conference is scheduled to begin at noon on **Monday, June 12th**, and to be completed by lunchtime on **Wednesday, June 14th**.

Its overall goal is to provide opportunities to learn about the projects in detail, and to meet, interact with, and provide feedback to the principal investigators as well as the relevant program managers from the U.S. Department of Energy and the Oak Ridge National Laboratory.

We invite representatives from industry to attend the conference for briefings about recent progress in these topic areas, and we welcome their comments on the directions and focus of the work presented, and its relevance to their needs.